No. 9500224

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

ProGene, L.L.C.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA, FIELD

'Pro 2100'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of July in the year of our Lord one thousand nine hundred and ninety-nine.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
ProGene, L.L.C.
(MAS - letter 5/27/97)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
GP 88100

3. VARIETY NAME
Pro 2100

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
~~219 Troy Road~~
~~Moscow, Idaho 83843~~ (MAS 6/2/97 - letter 5/27)
860 Crestline
Othello, WA 99344

5. TELEPHONE *(include area code)*
(509) 488-3532

6. FAX *(include area code)*
(509) 488-0132

FOR OFFICIAL USE ONLY

PVPO NUMBER
9500224

FILING DATE
MAY 15, 1995

FEES RECEIVED
FILING AND EXAMINATION FEE:
$ 2325.00 / $125.00
DATE
05/15/95 & 06/21/95
CERTIFICATION FEE:
$ 300.00
DATE
July 12, 1999

7. GENUS AND SPECIES NAME
Pisum sativum

8. FAMILY NAME *(Botanical)*
Leguminosae

9. CROP KIND NAME *(Common name)*
Field Pea

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)* *(Common name)*
Limited Liability Company

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Idaho

12. DATE OF INCORPORATION
2-10-95

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Kurt Braunwart
ProGene, L.C.
860 Crestline
Othello, Wash 99344

14. TELEPHONE *(include area code)*
(509) 488-3532

15. FAX *(include area code)*
(509) 488- 0132

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of the Variety
d. ☒ Exhibit D. Additional Description of the Variety Replaced and relabeled as Exhibit B supplement - letter 5-21-98
RWS 5-26-99
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)?*
☐ YES *(If "yes," answer items 18 and 19 below)* ☒ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☒ YES *(If "yes," give names of countries and dates)* ☐ NO
U.S.A. May 1995

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
Kurt Braunwart			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Kurt Braunwart		Jerry Robinson	
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Owner/Manager	5/1/95	Owner/Manager	5/1/95

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A, B, C, E; (3) at least 2,500 viable untreated seeds, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in a public repository prior to issuance of a certificate; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.175 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 30 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $300 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: (301) 504-5518

ITEM

16a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;

(2) the details of subsequent stages of selection and multiplication;

(3) evidence of uniformity and stability; and

(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.

16b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;

(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;

(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

16c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

16d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.

16e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employee of the breeder, the owner through purchase or inheritance, etc.

17. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant may **NOT** reverse this affirmative decision after the variety has been sold and so labelled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See P.L. 103-349 for additional information.)*

20. See Sections 41, 42, and 43 of the Act and Section 97.175 of the regulations for eligibility requirements.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

PVP application / ProGene, L.C. for dry field pea Pro 2100

Exhibit 14 A: Origin and Breeding History

Pro 2100 was obtained from a cross between Maxi (a dry field pea) and Alcan (a Rogers Seed Co. smooth seeded vining canning pea).

The process to develop the variety Pro 2100 from this cross was to maintain Single Pod Decents (SPDs) through the F5 generation, then Single Plant Selections (SPSs) were made. Seed from each of these SPSs were planted in a single row to produce the F6 generation. One of these lines continued on to be tested in the Preliminary and Advanced trials as GP 88100. A single field strip (12' X 120') was planted in a Columbian field in 1992. It was renamed RNK 2100 that year (for Rogers NK which was the owner at the time). The variety was then tested in small field situations. In 1993 a 12 acre field was split between RNK 2100 and Columbian in Pullman, Washington. 20 acre test fields were also planted that year in Genesee, Idaho, and Colfax, Washington and compared to neighboring fields of Columbian. Each grower was selected for the testing process and only selected growers had any chance of receiving seed to test. The Genesee grower showed enough interest that in 1994 two growers were selected in that area for further tests, each with 20 acre fields. Yields and quality from both years were reported and evaluated to see if the variety should continue forward. In February of 1995, ProGene, L.C., an Idaho company, purchased the Rogers Seed Company dry pea program which included the variety RNK 2100. We did not retain the full name of the variety because the Rogers and NK names are no longer associated with the program. Thus we are applying under the name Pro 2100.

Results in the Genesee area were positive enough for the two years that commercial sales are going to 3 companies for the 1995 season with sales concluding in May/June 1995. Those wholesale buyers are located in Genesee, Idaho; Moscow, Idaho; and Oakesdale, Washington. Because of the willingness of the three companies to purchase commercial seed at going prices, ProGene is hereby applying for PVP protection of the dry field pea Pro 2100.

9500224

PROGENE LLC

860 Crestline, Othello, WA 99344
Phone 509.488.3532
Fax 509.488.0132

To: Robert Schlegel
Plant Variety Protection Office (PVPO)

From: Kurt Braunwart May 27, 1998

Subject: PVP Application No. 9500224, Field Pea, 'Pro 2100' / Requested information for completion of PVP as per Robert Schlegel letter of January 23, 1997.

Exhibit A
(1) There are no known variants in Pro 2100

(2) Selection criteria used for selecting Pro 2100
a.) Looked for sustained double podding even when drought stress effected populations being selected out of.
b.) Greater tolerance to powdery mildew than Columbian
c.) Wanted Fusarium Wilt Race 1 resistance
d.) Yield equal to or better than Columbian under North Idaho/Eastern Washington dryland conditions.
e.) Consistently round seeds without dimples (as Columbian has)
f.) Consistent green color (Columbian color of seeds varies within any sample)
g.) Greater biomass than Columbian so as to have more residue after harvest for erosion control.
h.) Higher pod set than Columbian so that it is easier to pick up the plants for harvest without cutting off some of the pods with the sickle.
i.)Want to begin bloom later than Columbian but mature as early or earlier than Columbian. This indicated that Pro 2100 is more determinant than Columbian.
j.) Not dwarf – Dwarf varieties do not deal well with the moisture stress years.

3.) In 1990, 1991, and 1992 Pro 2100 displayed uniformity and stability in Eastern Washington trials. In subsequent years of seed increases the variety continued to display uniformity and stability. Commercial fields in 1995 and on continued to show uniformity and stability.

Exhibit B
1.) Statement of Distinctness: The most similar variety to Pro 2100 is Columbian. Columbia was a variety out of the Campbell Soup program and is a public variety.

Attached are the statistical comparisons between Pro 2100 (formerly called RNK 2100) and Columbian. The summary is an average from 1990 (ten comparisons per character) and 1991 (twenty comparisons per character.) These compared characteristics cover all 7 guidelines noted for "Presenting Evidence in Support of Variety Distinctness".

9500224

PROGENE LLC

860 Crestline, Othello, WA 99344
Phone 509.488.3532
Fax 509.488.0132

STATISTICAL DATA IN SUPPORT OF STATEMENT OF DISTINCTNESS

Date: May 22, 1998

PVP Application No. 9500224, Field Pea, 'Pro 2100'

Statistical Comparison of Characteristics of Pro 2100 and Columbian

	Two year Average (1990 & 1991)	
Character	Pro 2100	Columbian
Single pods/plant	1.1	6.05
Double pods/plant	3.9	1.5
Total pods/plant	8.9	9.05
Seeds/pod	6.2	6.1
Height to first blossom	64.8 cm	34.15 cm
Final plant height	104.3 cm	91.8 cm
1st blossom node	13.8	9.4
Final blossom node	18.8	16.4
Internode length Between 1st & 2nd Blooming nodes	83.5 cm	91.15 cm
Peduncle length of First flower	81.5 mm	88.0 mm
Pod length	62.15 mm	57.75 mm
Pod width between Sutures	9.75 mm	10.85 mm
Pod depth – sutures up	7.3 mm	9.2 mm

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FORM APPROVED: OMB NO. 0581-0055

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
Science Division
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Pea)

OBJECTIVE DESCRIPTION OF VARIETY
PEA *(PISUM SATIVUM)*

NAME OF APPLICANT(S)
ProGene L.L.C.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
860 S. Crestline
Othello, WA. 99344

VARIETY NAME OR TEMPORARY DESIGNATION
Pro 2100

FOR OFFICIAL USE ONLY

PVPO NUMBER
No. 9500224, Field Pea, 'Pro 2100

Place the appropriate number that describes the varietal character in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = GARDEN 2 = FIELD 3 = EDIBLE-PODDED

2. MATURITY:

[14] Node number of first bloom: [ ][ ][ ] No. of days to processing [ ][ ][ ][ ] Heat Units

[0][1] No. of days *Earlier* than . . . (to physiological maturity) 1993
[1][1] No. of days *Later* than . . . (to full bloom) 1993

[1] 1 = ALASKA WR (Columbian) 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
[1] 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

3. PLANT HEIGHT:

[1][0][4] CM. HIGH

[ ][ ] Cm. *Shorter* than . . . . . [ ] 1 = ALASKA WR (Columbian) 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
[1][2] Cm. *Taller* than . . . . . [1] 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

4. VINE:

[1.5] Habit: 1 = DETERMINATE 2 = INDETERMINATE 1.5=(in between)

[2] Stockiness: 1 = SLIM (Alaska) 2 = MEDIUM (Thomas Laxton WR) 3 = HEAVY (Alderman)

[1] ✓ Branching: 1 = NONE (Alaska) 2 - 1–2 BRANCHES (Little Marvel) 3 = MORE THAN 2 BRANCHES (Dwarf Gray Sugar)
(Has occational minor branching)

[2] ✓ Internodes: 1 = STRAIGHT 2 = ZIG ZAG (minor)

[1][9] NUMBER OF NODES

5. LEAFLETS:

[2] ✓ Color: 137 C* Green group ✓ 1 = LIGHT GREEN (Alaska WR) 2 = MED. GREEN (Thomas Laxton WR) 3 = DARK GREEN (Alderman) 4 = OTHER (Specify)

[3] ✓ Wax: 1 = NONE 2 = LIGHT 3 = MEDIUM 4 = HEAVY

[2] ✓ 1 = NOT MARBLED 2 = MARBLED (Alaska) (minor)

[5] ✓ Number of leaflet pairs: 1 = NOT PAIRED 2 = ONE 3 = TWO 4 = THREE OR MORE 5=lower branched start w/1-upper branches w/ up to 4 pairs

6. STIPULES:

[2] ✓ 1 = LACKING 2 = PRESENT

[2] ✓ 1 = NOT CLASPING 2 = CLASPING

[2] ✓ 1 = NOT MARBLED 2 = MARBLED

[2] ✓ Size (Compared with leaflets) 1 = SMALLER 2 = SAME 3 = LARGER

[2] ✓ Color (Compared with leaflets): 137 B* Green group ✓ 1 = LIGHTER 2 = SAME 3 = DARKER

7. FLOWER COLOR:

[ ] VENATION [1] ✓ STANDARD [1] ✓ WING [1] ✓ KEEL 1 = WHITE 2 = GREENISH 3 = LAVENDER 4 = PURPLE 5 = RED 6 = OTHER (Specify) 5

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8. PODS:

[1] ✓ Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

[2] ✓ End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)

[1] ✓ Color: 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman) 4 = OTHER (Specify) _____

[ ] Surface: 1 = SMOOTH 2 = ROUGH

[ ] Surface: 1 = SHINY 2 = DULL

[4] ✓ Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPEE 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) _____

[6][2] CM. LENGTH

[1][0] MM. WIDTH (Between sutures)

[0][6] NO. SEEDS PER POD

9. SEEDS (95--100 Tenderometer):

RECEIVED
USDA-AMS-PVPO
98 JUN -2 P2:06

[2] Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____

Seive: % 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] AVERAGE [ ]

SEEDS (Dry, Mature):

[4] Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED

[1] Surface: 1 = SMOOTH 2 = DIMPLED 3 = WRINKLED

[ ] Surface: 1 = SHINY 2 = DULL

[1] Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED

[6] ✓ Primary Color:
Grey-Green group 195 B* ✓
[ ] Secondary Color:
1 = CREAMY-WHITE 2 = CREAM & GREEN 3 = LIGHT GREEN 4 = MEDIUM GREEN 5 = DARK GREEN 6 = BLUE-GREEN 7 = YELLOW 8 = BROWN 9 = RED 10 - GRAY 11 = BLACK

[ ] Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK

[1] ✓ Cotyledon Color: 1 = GREEN 2 = YELLOW 3 = ORANGE
Exterior - Yellow/green group 146 B* ✓
Interior - Yellow/green group 146 D* ✓

[1][6] GRAMS PER 100 SEEDS (average 1993 & 1994)

10. DISEASE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[2] ✓ FUSARIUM WILT

[0] NEAR-WILT

[0] DOWNY MILDEW

[0] ASCOCHYTA BLIGHT

[1] POWDERY MILDEW

[0] BACTERIAL BLIGHT

[0] MOSAIC

[1] ✓ PEA ENATION MOSAIC (moderately susceptible)

[0] YELLOW BEAN MOSAIC

[ ] OTHER (Specify) Pro 2100 is less susceptible to powdery mildew than Columbian

11. INSECT: (0= Not Tested; 1 = Susceptible; 2 = Resistant)

[1] ✓ APHIDS

[ ] OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness		Fresh Seed Color	
Leaf Color		Mature Seed Color	
Pod Color		Seed Shape	
Pod Shape		Plant Habit	

COMMENTS: * All of these color reference numbers refer to a color fan out of "The Royal Horticultural Society (London) Colour Chart".
✓ Denotes new information.

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RWS
5-26-99

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Exhibit B Supplement

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 12: # double pods/plant		Variable 12: # double pods/plant	
Cases 41 through 60		Cases 61 through 80	
Mean:	4.4	Mean:	2.2
Variance:	1.4	Variance:	1.1
Standard Deviation:	1.2	Standard Deviation:	1.0

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.3041
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.5684

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	1.2461
Variance of the difference between the means:	0.1246
Standard Deviation of the difference:	0.3530
t Value:	6.3740
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
2.250 plus or minus 0.715 (1.535 through 2.965)

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Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 11: # single pods/plant		Variable 11: # single pods/plant	
Cases 41 through 60		Cases 61 through 80	
Mean:	1.1	Mean:	6.0
Variance:	0.9	Variance:	3.2
Standard Deviation:	1.0	Standard Deviation:	1.8

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	3.4242
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0101

Result: Significant F - Reject the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Variance of the difference between the means:	0.2072
Standard Deviation of the difference:	0.4552
t' Value:	-10.6539
Effective degrees of freedom:	29
Probability of t':	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
4.850 plus or minus 0.931 (3.919 through 5.781)

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Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 10: Seed/pod		Variable 10: Seed/pod	
Cases 41 through 50		Cases 61 through 70	
Mean:	5.5	Mean:	6.2
Variance:	0.3	Variance:	0.8
Standard Deviation:	0.5	Standard Deviation:	0.9

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	3.0400
Numerator degrees of freedom:	9
Denominator degrees of freedom:	9
Probability:	0.1131

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.5611
Variance of the difference between the means:	0.1122
Standard Deviation of the difference:	0.3350
t Value:	-2.0896
Degrees of freedom:	18
Probability of t:	0.0511

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
0.700 plus or minus 0.704 (-0.004 through 1.404)

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Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 1 : Ht to 1st blossom (cm)		Variable 1 : Ht to 1st blossom (cm	
Cases 41 through 60		Cases 61 through 80	
Mean:	59.3	Mean:	40.1
Variance:	65.2	Variance:	72.5
Standard Deviation:	8.1	Standard Deviation:	8.5

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.1127
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.8183

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	68.8421
Variance of the difference between the means:	6.8842
Standard Deviation of the difference:	2.6238
t Value:	7.3177
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
19.200 plus or minus 5.312 (13.888 through 24.512)

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Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 2 : Final height (cm)		Variable 2 : Final height (cm)	
Cases 41 through 60		Cases 61 through 80	
Mean:	103.7	Mean:	101.3
Variance:	27.4	Variance:	133.5
Standard Deviation:	5.2	Standard Deviation:	11.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	4.8722
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0011

Result: Significant F - Reject the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Variance of the difference between the means:	8.0441
Standard Deviation of the difference:	2.8362
t' Value:	0.8286
Effective degrees of freedom:	26
Probability of t':	0.4125

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
2.350 plus or minus 5.830 (-3.480 through 8.180)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 3 : 1st blossom node		Variable 3 : 1st blossom node	
Cases 41 through 60		Cases 61 through 80	
Mean:	13.9	Mean:	10.4
Variance:	1.1	Variance:	2.6
Standard Deviation:	1.0	Standard Deviation:	1.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.3747
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0668

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	1.8250
Variance of the difference between the means:	0.1825
Standard Deviation of the difference:	0.4272
t Value:	8.0758
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
3.450 plus or minus 0.865 (2.585 through 4.315)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 4 : Final node		Variable 4 : Final node	
Cases 41 through 60		Cases 61 through 80	
Mean:	19.8	Mean:	16.1
Variance:	1.5	Variance:	3.0
Standard Deviation:	1.2	Standard Deviation:	1.7

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.0523
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.1259

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	2.2289
Variance of the difference between the means:	0.2229
Standard Deviation of the difference:	0.4721
t Value:	6.7780
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
3.200 plus or minus 0.956 (2.244 through 4.156)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 5 : Internode length-1st & 2ND NODE		Variable 5 : Internode length-1st	
Cases 41 through 60		Cases 61 through 80	
Mean:	93.5 mm	Mean:	99.0
Variance:	497.6	Variance:	217.4
Standard Deviation:	22.3	Standard Deviation:	14.7

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.2893
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0789

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	357.5000
Variance of the difference between the means:	35.7500
Standard Deviation of the difference:	5.9791
t Value:	-0.9199
Degrees of freedom:	38
Probability of t:	0.3634

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
5.500 plus or minus 12.104 (-6.604 through 17.604)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 6 : Peduncle length-1st flr		Variable 6 : Peduncle length-1st f	
Cases 41 through 60		Cases 61 through 80	
Mean:	76.0 mm	Mean:	79.0
Variance:	1288.4	Variance:	464.7
Standard Deviation:	35.9	Standard Deviation:	21.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.7724
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0316

Result: Significant F - Reject the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Variance of the difference between the means:	87.6579
Standard Deviation of the difference:	9.3626
t' Value:	-0.3204
Effective degrees of freedom:	31
Probability of t':	0.7504

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
3.000 plus or minus 19.095 (-16.095 through 22.095)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 7 : Pod length (mm)		Variable 7 : Pod length (mm)	
Cases 41 through 60		Cases 61 through 80	
Mean:	54.8	Mean:	55.0
Variance:	46.0	Variance:	28.9
Standard Deviation:	6.8	Standard Deviation:	5.4

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.5886
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.3215

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	37.4671
Variance of the difference between the means:	3.7467
Standard Deviation of the difference:	1.9356
t Value:	-0.1292
Degrees of freedom:	38
Probability of t:	0.8979

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
0.250 plus or minus 3.919 (-3.669 through 4.169)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 8 : Pod width-between suture		Variable 8 : Pod width-between sut	
Cases 41 through 50		Cases 61 through 70	
Mean:	9.4 mm	Mean:	11.5
Variance:	2.3	Variance:	3.4
Standard Deviation:	1.5	Standard Deviation:	1.8

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.4951
Numerator degrees of freedom:	9
Denominator degrees of freedom:	9
Probability:	0.5586

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	2.8278
Variance of the difference between the means:	0.5656
Standard Deviation of the difference:	0.7520
t Value:	-2.7924
Degrees of freedom:	18
Probability of t:	0.0120

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
2.100 plus or minus 1.580 (0.520 through 3.680)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1990

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 9 : Pod depth-suture up (mm		Variable 9 : Pod depth-suture up (	
Cases 41 through 50		Cases 61 through 70	
Mean:	5.7	Mean:	9.1
Variance:	0.9	Variance:	1.2
Standard Deviation:	0.9	Standard Deviation:	1.1

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.3457
Numerator degrees of freedom:	9
Denominator degrees of freedom:	9
Probability:	0.6654

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	1.0556
Variance of the difference between the means:	0.2111
Standard Deviation of the difference:	0.4595
t Value:	-7.3999
Degrees of freedom:	18
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
3.400 plus or minus 0.965 (2.435 through 4.365)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 11: # single pods/plant		Variable 11: # single pods/plant	
Cases 1 through 20		Cases 21 through 40	
Mean:	1.1	Mean:	6.1
Variance:	0.7	Variance:	3.3
Standard Deviation:	0.9	Standard Deviation:	1.8

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	4.5616
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0018

Result: Significant F - Reject the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Variance of the difference between the means:	0.2020
Standard Deviation of the difference:	0.4494
t' Value:	-11.0143
Effective degrees of freedom:	26
Probability of t':	0.0000

Result: Significant t - Reject the Hypothesis

Confidence limits for the difference of the means (for alpha=0.05):
4.950 plus or minus 0.924 (4.026 through 5.874)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 12: # double pods/plant		Variable 12: # double pods/plant	
Cases 1 through 20		Cases 21 through 40	
Mean:	3.4	Mean:	0.8
Variance:	0.8	Variance:	0.7
Standard Deviation:	0.9	Standard Deviation:	0.9

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.0582
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.9032

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.7447
Variance of the difference between the means:	0.0745
Standard Deviation of the difference:	0.2729
t Value:	9.5273
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
2.600 plus or minus 0.552 (2.048 through 3.152)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 10: Seed/pod		Variable 10: Seed/pod	
Cases 1 through 20		Cases 21 through 40	
Mean:	6.9	Mean:	6.0
Variance:	0.3	Variance:	0.3
Standard Deviation:	0.6	Standard Deviation:	0.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.0845
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.9419

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.3105
Variance of the difference between the means:	0.0311
Standard Deviation of the difference:	0.1762
t Value:	5.1073
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
0.900 plus or minus 0.357 (0.543 through 1.257)

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 1 : Ht to 1st blossom (cm)		Variable 1 : Ht to 1st blossom (cm	
Cases 1 through 20		Cases 21 through 40	
Mean:	70.3	Mean:	28.2
Variance:	33.5	Variance:	2.5
Standard Deviation:	5.8	Standard Deviation:	1.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	13.4693
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0000

Result: Significant F - Reject the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Variance of the difference between the means:	1.7972
Standard Deviation of the difference:	1.3406
t' Value:	31.3663
Effective degrees of freedom:	21
Probability of t':	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
42.050 plus or minus 2.788 (39.262 through 44.838)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 2 : Final height (cm)		Variable 2 : Final height (cm)	
Cases 1 through 20		Cases 21 through 40	
Mean:	104.9	Mean:	82.3
Variance:	69.9	Variance:	175.7
Standard Deviation:	8.4	Standard Deviation:	13.3

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.5129
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0513

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	122.8184
Variance of the difference between the means:	12.2818
Standard Deviation of the difference:	3.5045
t Value:	6.4202
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
22.500 plus or minus 7.095 (15.405 through 29.595)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 3 : 1st blossom node		Variable 3 : 1st blossom node	
Cases 1 through 20		Cases 21 through 40	
Mean:	13.7	Mean:	8.4
Variance:	0.5	Variance:	0.8
Standard Deviation:	0.7	Standard Deviation:	0.9

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.4265
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.4460

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.6513
Variance of the difference between the means:	0.0651
Standard Deviation of the difference:	0.2552
t Value:	20.9632
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
5.350 plus or minus 0.517 (4.833 through 5.867)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 4 : Final node		Variable 4 : Final node	
Cases 1 through 20		Cases 21 through 40	
Mean:	18.3	Mean:	16.7
Variance:	1.8	Variance:	3.4
Standard Deviation:	1.3	Standard Deviation:	1.8

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.8772
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.1790

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	2.5895
Variance of the difference between the means:	0.2589
Standard Deviation of the difference:	0.5089
t Value:	3.1442
Degrees of freedom:	38
Probability of t:	0.0032

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
1.600 plus or minus 1.030 (0.570 through 2.630)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 5 : Internode length-1st & 2ND NODE		Variable 5 : Internode length-1st	
Cases 1 through 20		Cases 21 through 40	
Mean:	73.5 mm	Mean:	83.3
Variance:	66.1	Variance:	45.5
Standard Deviation:	8.1	Standard Deviation:	6.7

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.4530
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.4229

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	55.7566
Variance of the difference between the means:	5.5757
Standard Deviation of the difference:	2.3613
t Value:	-4.1291
Degrees of freedom:	38
Probability of t:	0.0002

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
9.750 plus or minus 4.780 (4.970 through 14.530)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 6 : Peduncle length-1st flr		Variable 6 : Peduncle length-1st f	
Cases 1 through 20		Cases 21 through 40	
Mean:	87.0 mm	Mean:	97.0
Variance:	158.9	Variance:	143.2
Standard Deviation:	12.6	Standard Deviation:	12.0

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.1103
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.8220

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	151.0526
Variance of the difference between the means:	15.1053
Standard Deviation of the difference:	3.8865
t Value:	-2.5730
Degrees of freedom:	38
Probability of t:	0.0141

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
10.000 plus or minus 7.868 (2.132 through 17.868)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 7 : Pod length (mm)		Variable 7 : Pod length (mm)	
Cases 1 through 20		Cases 21 through 40	
Mean:	69.5	Mean:	60.5
Variance:	10.3	Variance:	10.3
Standard Deviation:	3.2	Standard Deviation:	3.2

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.0000
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	1.0000

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	10.2632
Variance of the difference between the means:	1.0263
Standard Deviation of the difference:	1.0131
t Value:	8.8839
Degrees of freedom:	38
Probability of t:	0.0000

Result: Significant t - Reject the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
9.000 plus or minus 2.051 (6.949 through 11.051)

9500224

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 8 : Pod width-between suture		Variable 8 : Pod width-between sut	
Cases 1 through 20		Cases 21 through 40	
Mean:	10.1 mm	Mean:	10.2
Variance:	1.1	Variance:	0.5
Standard Deviation:	1.1	Standard Deviation:	0.7

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	2.4503
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.0578

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.7763
Variance of the difference between the means:	0.0776
Standard Deviation of the difference:	0.2786
t Value:	-0.3589
Degrees of freedom:	38
Probability of t:	0.7217

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
0.100 plus or minus 0.564 (-0.464 through 0.664)

Data file: PVP_RNK2100
Title: PVP--RNK2100 VS COLUMBIA 1991

Function: T-TEST

SAMPLE ONE: RNK2100		SAMPLE TWO: COLUMBIA	
Variable 9 : Pod depth-suture up (mm		Variable 9 : Pod depth-suture up (	
Cases 1 through 20		Cases 21 through 40	
Mean:	8.9	Mean:	9.3
Variance:	0.7	Variance:	0.4
Standard Deviation:	0.8	Standard Deviation:	0.6

F-TEST FOR THE HYPOTHESIS "VARIANCE 1 = VARIANCE 2"

F Value:	1.6194
Numerator degrees of freedom:	19
Denominator degrees of freedom:	19
Probability:	0.3021

Result: Non-Significant F - Accept the Hypothesis

T-TEST FOR THE HYPOTHESIS "MEAN 1 = MEAN 2"

Pooled s squared:	0.5342
Variance of the difference between the means:	0.0534
Standard Deviation of the difference:	0.2311
t Value:	-1.7306
Degrees of freedom:	38
Probability of t:	0.0916

Result: Non-Significant t - Accept the Hypothesis
Confidence limits for the difference of the means (for alpha=0.05):
0.400 plus or minus 0.468 (-0.068 through 0.868)

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)

ProGene L.L.C.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

RNK 2100 or
DP 88100

3. VARIETY NAME

Pro 2100

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*

860 S. Crestline
Othello, WA. 99344

5. TELEPHONE *(include area code)*

(509) 488-3977(3532)

6. FAX *(include area code)*

(509) 488-0132

7. PVPO NUMBER

No. 9500224, Field Pea, 'Pro 2100'

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant *(individual or company)* a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country _____

10. Is the applicant the original owner? [ ] YES [X] NO *If no, please answer the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO *If no, give name of country* _____

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?

[X] YES [ ] NO *If no, give name of country* _____

11. Additional explanation on ownership *(If needed, use reverse for extra space):*

ProGene purchased the field pea breeding program from Rogers Seed Company in the spring of 1995. That program included the selection DP 88100, also called RNK 2100. After purchasing the program, ProGene proceeded to increase seed of Pro 2100 (RNK 2100) and released it for first commercial sale in the spring of 1995.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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PVP application / ProGene, L.C. for dry field pea Pro 2100

Exhibit 14 E: Statement of Basis of Applicant's Ownership

The variety for which Plant Variety Protection is hereby sought (Pro 2100) was crossed by Ron Shellenberger of Rogers Seed Company. By agreement between the employee and Rogers Seed Company all rights to any invention, discovery, or development made by the employee while employed by Rogers Seed Company were assigned to Rogers Seed Company with no rights of any kind retained by the employee. On February 23rd, 1995 ProGene, L.C., an Idaho Limited Liability Company purchased Rogers Seed Company's entire dry pea breeding program including RNK 2100 (test number GP 88100 and subsequently renamed Pro 2100 for commercial release). ProGene purchased the program, all rights, associated records and germplasm for $1,000.00 U.S. plus royalty considerations.